

ARTICLE APPEARED  
ON PAGE HL

WASHINGTON POST  
14 December 1986

## Satellite Images on TV: The Camera Can Lie

By Dino A. Brugioni

**W**HEN ARTHUR C. Lundahl, the director of the National Photographic Interpretation Center, showed the aerial photos of Russian medium-range missiles in Cuba to President John F. Kennedy, the president turned in his chair and looked Lundahl straight in the eye and asked, "Are you sure of this?"

Lundahl replied, "Mr. President, I am as sure of this as a photo interpreter can be sure of anything. I think you will agree that we have not misled you on any of the other subjects that we have reported to you."

Lundahl spoke with the full knowledge that a professional photo interpreter has of the difficulties involved in analyzing aerial and satellite reconnaissance photographs. Such photographs, correctly interpreted, have proven invaluable to intelligence gathering.

But now the technology has become available commercially, and the television networks—lacking Lundahl's experience or appreciation—have begun using satellite photos without, not to put too fine a point on it, knowing what they are doing. On no fewer than four recent occasions, the networks have drawn wrong conclusions from satellite photos or been snookered by fake photographs or film.

For instance, after the Chernobyl disaster, all three major networks acquired LANDSAT imagery as a source of information. Both CBS and NBC called the Georgetown Center for Strategic and International Studies for expert analysis. They, in turn, were referred to me by other experts familiar with my career at the CIA, where I worked between 1948 and 1982 as a photo-interpretation specialist.

The first call I received was from CBS. I was asked if I had seen the imagery of Chernobyl. I had, I said. I was told that Dan Rather was going on the air at 4 p.m. stating that there was evidence of two reactor meltdowns based on the LANDSAT imagery. I replied, "Only an idiot would make such a statement."

Nevertheless, Dan Rather did go on the air that afternoon and repeated on his evening news broadcast that two reactors had melted down. Shortly after, NBC called, saying that Tom Brokaw was also going on the air with LANDSAT photos and would state that two reactors had melted down. Again, I repeated that my analysis of the imagery clearly showed only one "hot spot" in the reactor area. The other, some dis-

tance away, was not of the same intensity and could be from another heat source or possibly a reflection of heat. Before his evening news broadcast was over, Brokaw said that reports were being received that maybe only one reactor had melted down.

The NBC call was followed by one from ABC. When I asked who had analyzed the imagery, ABC replied that it had received the news from the Pentagon. NBC had said it got the information from "a public relations type." The CBS caller couldn't tell me where she had gotten the information.

Shortly after the showing of the LANDSAT photos, while watching CBS and ABC, I saw a movie film, supposedly of Chernobyl, depicting smoke rising from the affected reactor. Looking at the film, I could tell immediately that it wasn't Chernobyl. First, there was a mountain range in the background. Chernobyl lies along a river plain. Second, the film showed a rather large city. Chernobyl is a small town. Third, the housing was distinctly European, not Russian.

I immediately called Ted Koppel's office, where I had worked on "20/20" several years ago and on "Nightline" programs involving reconnaissance, informing his office that the film was a hoax. I explained that any competent analyst comparing the movie film with either the LANDSAT or SPOT imagery would have discovered the hoax. Later, after being informed by Italian sources that the film was of Trieste, CBS and ABC acknowledged the error with some chagrin on the air.

Current technology allows photographs to be made that exploit different bands of the light spectrum. This multisensor imagery has proven to be an invaluable resource in many disciplines besides intelligence gathering. The media have recently discovered the American-owned LANDSAT and the French-owned SPOT satellite imagery and unfortunately have been showing them with blatant misanalysis. Television news needs to be as sure of its reporting to the American public when using aerial photos or multisensor imagery as Lundahl was to President Kennedy.

Unfortunately, network television has not exercised that kind of care in its reporting. So far, no grave damage has been done as a result of the erroneous reports that have appeared, but we cannot be sure that continued careless reporting will be without consequence.

Imagery's value as an intelligence tool has been proven time and again since being used in World War II. The credibility of imagery-derived information was established through intensive application to many crises and events during and after World War II.

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through determined efforts, careful development and the disciplined application of basic principles of photo exploitation, imagery has developed a degree of credibility unmatched by any other intelligence source.

Yet the value of imagery as an intelligence tool is determined by the quality of the analysis. It is incredible that the media in their haste to be first on the air have succumbed to reporting important events using aerial photography or multisensor imagery based on incomplete and inadequate analysis and source evaluations, including reliance on amateurs and untrained imagery analysts.

Imagery analysis is performed by an experienced technician using photo transparencies viewed on sophisticated microstereoscopes that have magnification powers similar to those of a microscope. He is supported by photogrammetrists who can measure and enhance objects of concern. The analyst is also provided with a variety of information from other sources such as maps, charts, photographs and reports to aid his analysis.

To my knowledge, none of the major TV networks employs a trained and experienced imagery analyst. The most sophisticated piece of equipment I've seen employed by news reporters and news executives has been a hand-held magnifying glass. This lack of expertise with imagery on the part of the news reporter and news executive allows for the acceptance of unverified information, and too often they become "suckers" for photo fakery.

A few weeks after the Chernobyl foul-up, several networks showed SPOT photographs of the Soviet nuclear proving grounds at Semipalatinsk and claimed that the Soviets were preparing to resume nuclear testing. They showed photos of what was described as a "drill site." Looking at the photo, any competent imagery analyst would have pointed out that the arrangement and the cable scars terminating at the site would have proved that it was not a drill site but rather an instrumentation site, common to all nuclear proving grounds. I called a CBS executive's office and pointed out the error but there was no retraction.

Recently, a network called and asked, as if it were brand new, if I had seen the SPOT photos of the Soviet Tyura Tam space shuttle's long runway and facilities. I replied that I had not seen the photos but I doubted that there was anything new about them. Aviation

Week and Space Technology had published LANDSAT photos of the long runway and facilities in the magazine in 1983.

I also pointed out that the facilities had been photographed by a U.S. space shuttle mission and that there was a good description of the Soviet space shuttle program along with an artist sketch of the Tyura Tam facility in "Soviet Military Power," a Depart-

ment of Defense publication. I added that the Library of Congress could provide reams of information on the Soviet space program.

Yet this network was still trying to find—or manufacture—a news story to justify using the newly-available photos. This perhaps is the greatest danger—the indiscriminate use of quality photography to create a substantive story where none exists. This kind of perversion of the technology is anathema to the imagery-intelligence analyst in reporting information derived from aerial photography or multisensor imagery.

Another network, reporting on the aerial photos taken of the air strikes on Libya stated no Libyan military aircraft were hit. Yet analysis of the photos of Benina Airfield showed clearly that five Mig-23 Floggers were destroyed along with 3 MI-8 combat helicopters.

Apparently in error or on the theory that any old picture will do, a network recently reporting on a Soviet experimental laser aircraft having burned in the Soviet Union showed, of all things, imagery taken during the U.S. attack on Libyan transports.

The networks have also become increasingly sloppy in their research and in their presentation of graphic information. For example, one network, reporting on the Soviet SS-20 mobile surface-to-surface missile showed film clips of SA-5 surface-to-air missiles being trundled through the streets of Moscow. Another network used a film clip from Soviet sources of a Scud short-range missile being fired. The truth, and it should be reported, is that the Soviets have never shown their SS-20 publicly. I might add, however, there is an artist's sketch of the SS-20 also in "Soviet Military Power." When I called this error to the network's attention, I was told in so many words that a missile is a missile. In essence, the truth is compromised or sacrificed to achieve a heightened drama.

Newspapers and magazines publish letters to the editor or print retractions to stories in which possible errors have been made. To date, the TV networks have not retracted any of their mistakes on the misanalysis of aerial photography or multisensor imagery. In fact, they have acted with disdain when the mistakes are called to their attention.

The basic criteria for accurate photographic analysis have not changed. The imagery interpreter must apply all of his acumen and often a variety of sources to verify what he sees on the imagery before reporting his results. Above all, he must be sure of the facts. It is all too evident that the media in reporting recent events using aerial photography and multisensor imagery have done an extremely poor job. Aerial photography and multisensor imagery are too important sources of information and credibility for the analysis to be left to amateurs.

The networks, before reporting on information derived from imagery, should also ask, "Are you sure?" If not, a great disservice is being done to the whole field of imagery interpretation, and more importantly, to the American people.

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